Universe Scientific Publishing

DOI:10.18686/ahe.v7i26.10428

Research on the Informationization Construction of Teaching Management in Universities Based on the Era of Big Data

Yonglin Zhao

Zhengzhou University of Science and Technology, Zhengzhou City, Henan Province , 450064 , Email: Zhaoyonglin791502@126.com

Abstract: In the past few years, China's higher education industry has once again achieved innovative development, with the greatest progress being the more convenient management of student education and teaching in universities. This includes the daily management of students in various professional classes, the management of students' professional curriculum teaching and its curriculum system construction, overall quality, and teaching service efficiency, all of which have been significantly improved. Behind all of this is the construction of information technology in universities, as well as the promotion and application of internet big data in various aspects of teaching, production, and research in universities. In a word, the current in-depth development of "Internet plus" information technology, big data and cloud computing technology has indeed greatly promoted the reform and innovation of China's university education and teaching content, teaching materials and curriculum management system, and then provided technical support and platform guarantee for the continuous growth of school scale and the continuous improvement of talent training quality. In view of this, based on the actual situation of information technology reform in schools in the past two years, a brief summary and sorting out of some experience models.

Keywords: Internet big data; Universities; Teaching management mode; Informatization

1. The Necessity of Informationization Construction of Teaching Management in Universities in the Era of Big Data

1.1 Make the teaching management positioning of universities more precise

The biggest impact of internet big data on university teaching management is to improve the efficiency and convenience of teacher team management and student management. Compared to traditional modes, nowadays all teachers and students have smartphones and everyone has a mobile terminal network, making learning and communication in all aspects more convenient. However, compared to the optimization of these soft environments within universities, the most urgent issue to be addressed is how to reflect the basic ideas and principles of "education first" and "student centered". Because the role and value significance of universities are places to cultivate and transport outstanding talents for the country, society, and enterprises. Therefore, in the planning and design of teaching management content, influenced by big data information technology, to some extent, the informationization of teaching management in schools has also increasingly focused on service attributes, namely serving educational activities of schools and teaching activities of students. As long as we firmly grasp this point, we can put it into practice, constantly innovate and practice.

1.2 Make teaching management in universities more efficient

The evaluation of 'more efficient' can continue to be compared with traditional educational models. The traditional management model is that school leaders issue instructions to teachers of various disciplines, while teachers of various disciplines assign learning tasks to students. The entire process is both monotonous and slow, and the vast majority of teachers can only focus on daily teaching tasks and progress control, resulting in overall low management efficiency in the school.

On the contrary, under the condition of big data, schools can choose to rely on a new education management system and then implement various management details of the school. At the same time, it is also easy to grasp the basic dynamics of all teachers and

students. More importantly, under the big data information mechanism, unlike traditional classrooms, big data will screen and consider comparing the differences between students of different majors and abilities. In this way, what students in the major need to learn and how to complete it in the shortest possible time is very useful for improving students' overall management ability.

1.3 Make talent education in universities more controllable

The so-called "educational controllability" refers to the degree of educational management in educational controllability. In other words, the education level of the school and the individual education management level of students have always relied on the various management systems of the school. However, in traditional mode, this management mode also reduces work flexibility. In short, the increasing number of problems exposed in the traditional education industry chain has led to the inability to form a comprehensive education management system. On the contrary, at the level of informationization construction in university management, big data can be fully utilized to innovate university education management work.

2. New Problems Faced by the Informationization Construction of Teaching Management in Universities in the Era of Big Data

2.1 The construction cost of teaching management informatization is relatively high

Compared to the past, the level of big data information education management has gradually improved, but the cost expenditure is also high. Strictly speaking, in the context of big data, the teaching information system of universities is designed based on internet platform applications, and then analyzed through the use of big data resources. For example, in terms of enrollment; In terms of the reform, compilation, and design of the professional curriculum system; Writing papers and journal papers cannot be separated from big data. The entire process may consume a large amount of funds, including human and financial resources in the process of collecting data; The big data resources involved in data collection and processing; Operation and maintenance of computers and equipment. These daily expenses are a part that the school must bear. Therefore, in recent years, various universities have also vigorously introduced and developed training professionals, and accelerated the construction of teaching management informatization and lean management.

2.2 Informationization education and teaching management tends towards formalism

Throughout the entire school, almost the vast majority of fields have applied information technology, and even students need to sign in and clock in during class, as well as the offline online course system. In terms of daily class management, almost different colleges and professional classes follow the same management method, with no unique features. There is also a serious disconnect from students' daily learning needs, and the differences in student management across different majors have not yet been taken into account. So, as time goes by, more and more new problems arise, ultimately leading to the ineffectiveness of school management education. Even though many effective data resources are provided in daily teaching management, they are always overlooked by teachers and cannot be utilized.

2.3 Backward professional ability of information technology course textbook management talents

Regarding the development and utilization of networked and information-based courses , although schools attach great importance to it, they still follow the traditional management model in actual construction, which is an overly rigid information-based textbook management model, resulting in a single content and method of information-based textbook management. In short, currently, the vast majority of universities, especially the management staff on campus, value the information sharing mechanism of network information system platforms and have a clear understanding of the data analysis advantages of internet big data technology, including the development of course systems, feedback on content, student satisfaction evaluation, etc., which can be improved in a timely manner according to the actual situation. However, in the actual promotion of construction, most universities have not relied on the natural advantages of the campus intranet, have not integrated the progress of teaching management resources on campus, and have not fully utilized the survey and feedback function of network data to timely identify and fill in gaps. In this way, the school's information technology curriculum textbook system is not perfect, and the practical content of professional textbooks is lacking, ultimately leading to the inability to provide guidance for teaching activities.

3. The Innovative Direction of Informationization in Teaching Management in Universities in the Era of Big Data

3.1 Lean+Standardized Management Platform Reasonably Compress and Control Cost Expenses

Management of teacher and student information storage, registration of teacher roles and responsibilities tasks storage , and reg-

istration of all student academic information and performance evaluation, professional information, and courses learned. The subject course textbooks of various majors are also managed for storage. In this way, the entire teaching management and various educational activities of the school, including teachers' scientific research and academic research, are all stored and recorded in the backend database of the school's network information system.

3.2 Avoiding Formalism and Improving Practice Standards for Big Data Education Management in Universities

Firstly, it is necessary to clearly recognize that informationization provides auxiliary services for school educational activities and student teaching management, rather than informationization for the sake of informationization. Therefore, in order to effectively grasp this point, it is necessary to ensure the following: "The informationization of teaching management in universities is consistent with the main management of universities. Subject management includes schools, government departments, and enterprises that establish cooperative relationships with schools. Therefore, only by establishing common goals, namely talent cultivation goals, can schools better utilize data information and focus on the construction of teaching management for students in various majors.

On this basis, we will innovate daily teaching management services, improve reward and punishment mechanisms, and additionally reward and commend faculty members who have performed actively and excellently in information construction work. Abandoning the shortcomings of traditional teaching management can highlight the progressiveness and normative nature of college informatization education management,

3.3 Establish and improve a network system platform for information based textbook management

Pay attention to the resource management of information technology course textbooks, standardize the resource management process, and refine the operation and utilization rules of the content of each professional course textbook. For example, for students from different departments, majors, and grades, the annual textbook subscription, textbook pre purchase, textbook accounts, and textbook inventory management for each semester, including various public compulsory and elective courses in the school, can be set according to the execution processes of textbook subscription, pre purchase, approval, feedback, and inventory management after meeting the conditions. Timely inquiry and consultation, everything is well documented.

4. Conclusion

Regarding the construction of information technology in universities, as early as the early stages of internet popularization over a decade ago, many schools have already accelerated the construction of information technology. However, from the perspective of information technology construction, early information technology construction mainly focused on school logistics and financial management. On the contrary, there are not many specialized designs for the education and teaching management of college students, as well as the informationization development of course materials. However, with the increasingly mature development of big data technology in the field of educational applications, coupled with the continuous emergence of network cloud service platforms, it is evident that it has improved the level of information technology teaching management in universities. Moreover, accelerating the informationization construction of teaching management can largely solve the common problems of poor allocation of teaching resources, lagging information sharing of professional courses, and loss of teaching evaluation and information mining among students in various majors in the past.

References:

[1] Wang Xiangxue. Innovation in Informationization of Teaching Management in Universities Based on Big Data Environment [J]. Chinese Science and Technology Journal Database (Abstract Edition) Education, 2022 (1): 4

[2] Fan Wenbo. Research on the Improvement Path of Teaching Management Informatization in Higher Vocational Colleges under the Background of Big Data [J]. Science and Education Guide, 2022 (6): 4

[3] Zhao Haiyan, Du Lijuan, Liu Kun. Analysis of the Development Path of Informationization in Higher Education Management from the Perspective of Big Data [J]. Cultural and Educational Materials, 2022 (5): 4

[4] Hao Qinxia. Research on Multiple Models of Informationization Management in Higher Education [J]. Higher Education Research and Practice, 2021, 40 (1): 75-79

[5] Xu He Collated. Yu Jianbo: Promoting Informationization of Higher Education Teaching through Curriculum Construction [J]. China Education Network, 2021 (7): 2